Claims

1. Method of locating communicating mobile objects in a communications
network, in which, in the case of a communication being established between
first (S) and second (A) communicating objects, the second of which (A) at least
is mobile, in sites (Hi) through which the second object (A) is passing, repeaters
(Fi) are generated communicating from one to the next within a chain which
they form together, so as to relay to the second object (A) each message
coming from the first object (S), characterised in that it further consists in:
* storing in each repeater (Fi) an identifier representing the location of the next
repeater (F(i+1)) or site (H(i+1)) within the chain,
* allocating a timer (CTF) to each repeater (Fi) at the moment when this is
generated, so that upon expiry of a selected duration, it addresses to at least
one location server (SL) of the network the said location identifier of the next
repeater (F(i+1)) or site (H(i+1)) in order that this is stored in the server (SL) as
correspondence of a primary identifier of the second object (A).

2. Method according to claim 1, characterised in that a first migration counter
(CM1) is allocated to the second object (A), then the value of the primary
counter (CM1) is incremented by one unit upon the creation of each new
repeater (Fi) in a site (Hi), and the value is compared to a selected threshold so
that if this value exceeds the threshold, the second object (A) addresses to the
server (SL) its own location identifier in order that this is stored as
correspondence of its primary identifier, the first counter (CM1) being then
reinitialised.

3. Method according to either of claims 1 or 2, characterised in that a timer
(CTA) is allocated to the second object (A) so that upon expiry of a selected
duration, this addresses to the server (SL) its own location identifier in order that
this is stored in the server as correspondence of its primary identifier, the timer
(CTA) being then initialised so that a new count starts.

4. Method according to a combination of claims 2 and 3, characterised in that the counting of the timer (CTA) is triggered after the timer has been initialised, when the result of the comparison indicates that the value of the first counter (CM1) is lower than the threshold.

5. Method according to one of claims 2 to 4, characterised in that the first counter (CM1) is initialised after each transmission to the server (SL) of the location identifier of the second object (A), consequent upon a comparison relating to the time spent on a site (Hi).

6. Method according to one of claims 3 to 5, characterised in that the counting of the timer (CTA) of the second object (A) is stopped when it migrates from one site (Hi) to another (H(i+1)).

7. Method according to one of claims 1 to 6, characterised in that after addressing its locating identifier the repeater (Fi) ceases its relay activity.

8. Method according to claim 7, characterised in that once the repeater (Fi) has ceased its relay activity and if it does not belong to another chain, it is cancelled.

9. Method according to one of claims 1 to 8, characterised in that each repeater (Fi) is allocated a position identifier representing its position within the chain, and in that upon expiry of the selected duration the repeater (Fi) addresses to the server (SL) the location identifier of the next repeater (F(i+1)) and its own position identifier so that these are stored in the server (SL) as correspondence of the primary identifier of the second object (A).

10. Method according to claim 9, characterised in that the position identifier of the transmitting repeater (Fi) and the location identifier of the next repeater (F(i+1)) or site (H(i+1)) are stored in the server (SL), as correspondence of the

identifier of the second object (A), when the position identifier has a value higher than that stored.

11. Method according to one of claims 2 to 10, characterised in that there is allocated to the second object (A) a second migration counter (CM2) whose value is incremented by one unit upon each migration and defines a position identifier representing its position within the chain, and in that if the selected threshold is exceeded by the first migration counter (CM1), the second object (A) addresses to the server (SL) its own location identifier and the position identifier representing the value of its second migration counter (CM2) so that these are stored in the server (SL) as correspondence of the primary identifier of the second object (A).

12. Method according to claim 11, characterised in that the position identifier of the second object (A) and its location identifier are stored in the server (SL), as correspondence of the primary identifier of the second object (A), when the position identifier has a value higher than that stored.

13. Method according to either of claims 9 or 10 in combination with either of claims 11 or 12, characterised in that the position identifier of a repeater (Fi) of a site (Hi) is representative of the value of the second migration counter (CM2) of the second object (A) at the moment when this leaves the site (Hi).

14. Communicating mobile object (A) for a communications network, comprising processing means (PM) capable, if a communication is set up with another communication object (S) of the said network, of generating in sites (Hi) through which it passes, repeaters (Fi) communicating from one to the next within a chain which they form together so as to relay each message coming from the other object (S) to their mobile object (A), characterised in that the processing means (PM) are contrived to allocate to each repeater (Fi), at the moment when this is generated, a timer (CTF) and to configure the repeater (Fi) so that, on the one hand, it can store an identifier representing the location of

the next repeater (F(i+1)) or site (H(i+1)) within the chain, and on the other hand, so that it transmits to at least one location server (SL) of the network, upon expiry of a selected duration, the location identifier of the next repeater (F(i+1)) or site (H(i+1)) within the chain, in order that it stores these as correspondence of a primary identifier of the mobile object (A).

15. Mobile object according to claim 14, characterised in that it comprises a first migration counter (CM1), and in that the processing means (PM) are contrived, each time they generate a new repeater (Fi) in a site (Hi), to increment by one unit the value of the first counter (CM1), then to compare the value to a selected threshold, then, if the threshold is exceeded, to address to the server (SL) the location identifier of their mobile object (A) in order that it stores these as correspondence of its primary identifier, and to initialise the first counter (CM1).

16. Mobile object according to either of claims 14 or 15, characterised in that it comprises a timer (CTA), and in that the processing means (PM) are contrived, upon expiry of a selected duration, to address to the server (SL) the location identifier of their mobile object (A) in order that it stores the same as correspondence of its primary identifier, then to initialise the timer (CTA) so that a new count starts.

17. Mobile object according to a combination of claims 15 and 16, characterised in that the processing means (PM) are contrived to trigger the counting of the timer (CTA) after initialising the same, each time the result of the comparison indicates that the value of the first migration counter (CM1) is lower than the threshold.

18. . Mobile object according one of claims 15 to 17, characterised in that the processing means (PM) are contrived to initialise the first migration counter (CM1) after each transmission to the server (SL) of the location identifier of their

mobile object (A) consequent upon a comparison relating to the time spent on a site (Hi).

19. Mobile object according to one of claims 16 to 18, characterised in that the processing means (PM) are contrived to stop counting of the timer (CTA) when their mobile object (A) migrates from one site (Hi) to another (H(i+1)).

20. Mobile object according to one of claims 14 to 19, characterised in that the processing means (PM) are contrived to configure each repeater (Fi), at the moment when it is generated, so that it ceases its activity after addressing to the server (SL) its location identifier.

21. Mobile object according to one of claims 14 to 20, characterised in that the processing means (PM) are contrived to allocate to each repeater (Fi), at the moment when it is generated, a position identifier representing its position within the chain, so that upon expiry of the selected duration, the repeater (Fi) addresses to the server (SL) the location identifier of the next repeater (F(i+1)) or site (H(i+1)) and its own position identifier in order that these are stored in the server (SL) as correspondence of the primary identifier of the mobile object (A).

22. Mobile object according to one of claims 15 to 21, characterised in that it comprises a second migration counter (CM2) whose value defines a position identifier representing the position of the mobile object (A) within the chain, and in that the processing means (PM) are contrived to increment by one unit the value of the second migration counter (CM2) upon each migration of the mobile object (A) and to transmit to the server (SL), if the selected threshold is exceeded by the first migration counter (CM1), the location and position identifiers of their mobile object (A) so that it stores these as correspondence of the primary identifier of the mobile object (A).

23. Mobile object according to a combination of claims 21 and 22, characterised in that the processing means (PM) are contrived to communicate

to the repeater (Fi) of the site (Hi) the value of the second migration counter (CM2) when their mobile object (A) leaves a site (Hi), in order that this value forms the position identifier of the repeater (Fi).

24. Mobile object according to one of claims 14 to 23, characterised in that it forms a selected mobile terminal in a group comprising at least mobile telephones, portable computers, electronic personal organisers and logical computing units which can move from one site to another.